

Claims

1. A method of thoroughly eliminating "Electrophoresis effects" of DC fluorescent lamp tube is characterized by solely and/or simultaneously changing the following structures of the lamp tube and its accessories in accordance with the length and diameter of the lamp tube, the magnitude of the current flowing in the lamp tube, and power: (1) Changing the relative positions of the anode and cathode of a DC fluorescent lamp tube at both ends of the lamp tube and the structures of the anode and cathode, that is, to make the distance between the filament at the cathode end and the bottom of the lamp tube shorter than that between the anode and the bottom of the lamp tube; (2) Coating a euphotic layer of infrared reflective film at either inside or outside wall at the cathode position at the cathode end of a DC fluorescent lamp tube; (3) Placing mercury-absorbed material into the vent-pipe at the anode end and/or at the position near to the place where the wire of anode is close to anode; (4) Assembling additionally a heat-preservation sealed encloser with a high degree of transparency under the lampshade of a DC fluorescent lamp tube; (5) Charging inert gases of krypton and/or xenon in accordance with their volume accounting for 20-60% of the total volume of inert gasses into the lamp tube and keeping the total pressure within 300-800Pa.

2. The method of thoroughly eliminating the "electrophoresis effects" of DC fluorescent lamp tube as described in claim 1 above is characterized by the aforementioned (1) Changing the structure of the cathode or anode of a DC fluorescent lamp tube refers to the change of the cathode into a three-spiral filament in short stem shape with an L-shape metal protection ring; while the anode can be changed into filament shape without coating electronic powder with the volume larger than that of cathode;

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3. The method of thoroughly eliminating the “electrophoresis effects” of
a DC fluorescent lamp tube as described in claim 1 above is characterized by the
aforementioned (1) Changing the structure of the cathode or anode of a DC
fluorescent lamp tube refers to further change of the cathode into a three-spiral
filament in a flat stem shape with an oval shape metal protection ring; while the
anode can also be changed into either shape, flat or circular, with a larger reception
area.

10 4. The method of thoroughly eliminating the “electrophoresis effects” of
DC fluorescent lamp tube as described in claim 1 above is characterized by the
aforementioned (4) Assembling additionally a heat-preservation sealed encloser
with a high degree of transparency under the lampshade of a DC fluorescent lamp
tube, only to be co-used with the aforementioned (3) Placing mercury- absorbed
material into the vent-pipe at the anode end and/ or at the position near to the place
where the wire of anode is close to anode and (5) According to the charging of
15 inert gases of krypton and/or xenon in accordance with their volume accounting
for 20-60% of the total volume of inert gases into the lamp tube.

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